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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.      | CONFIRMATION NO.       |
|--|-------------|----------------------|--------------------------|------------------------|
| 10/663,647   | 09/17/2003  | Jindrich Houzvicka   | H0610.0351/P351          | 3795                   |
| 24998  | 7590        | 06/27/2007           |                          |                        |
| DICKSTEIN SHAPIRO LLP<br>1825 EYE STREET NW<br>Washington, DC 20006-5403 |             |                      | EXAMINER<br>BOYER, RANDY |                        |
|  |             |                      | ART UNIT<br>1764         | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>06/27/2007  | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/663,647

Applicant(s)

HOUZVICKA ET AL.

Examiner

Randy Boyer

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12 April 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed 12 April 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed.
2. Examiner notes that the information disclosure statement has been considered in part, as evidenced by Examiner's initialing of those references considered during examination.
3. However, Examiner does not find copies of the non-patent literature references (1) "A Study of Platinum Supported on Tungstated Zirconia Catalysts," and (2) "Selective Isomerization of Alkanes on Supported Tungsten Oxide Acids" in the file. Consequently, these references have not been considered.

### ***Claim Objections***

4. Claim 4 is objected to for improper use of the plural form.
5. As submitted, claim 4 reads in relevant part "A process according to claims 1, . . .". Examiner suggests correction by amending the claim to read "A process according to claim 1, . . .". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 3 includes the limitation "with a hydrogen to hydrocarbon ratio between 0.1 to 5." The claim language is indefinite since it does not provide the basis for which the ratio is to be calculated (e.g. mole ratio, mass ratio, volume ratio, etc.). Examiner suggests correction by amending the claim to read, in relevant part, "with a hydrogen to hydrocarbon molar ratio between 0.1 to 5," support for which can be found in Applicant's specification at page 7, lines 9-11.

9. Claim 4 includes the limitation "wherein the catalyst in its dry form comprises . . . 10-40% of aluminum oxide." The claim is indefinite since it does not provide the basis for which the aluminum oxide content is to be measured (e.g. wt. %, mol %, etc.). Examiner suggests correction by amending the claim to read, in relevant part, "wherein the catalyst in its dry form comprises 10-40 wt% of aluminum oxide," support for which can be found in Applicant's specification at page 5, lines 19-20.

10. Claim 5 includes the limitation "wherein the Group VIII metal is platinum and/or palladium in an amount of between 0.01% to 5%." The claim is indefinite since it does not provide the basis for which the platinum and palladium content is to be measured (e.g. wt.%, mol%, etc.). Examiner suggests correction by amending the claim to read,

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in relevant part, "wherein the Group VIII metal is platinum and/or palladium in an amount of between 0.01 wt% to 5 wt%," support for which can be found in Applicant's specification at page 6, lines 8-11.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hollstein (US 4956519).

13. With respect to claim 1, Hollstein discloses a process for the production of high-octane gasoline from a hydrocarbon feed stream with C<sub>4+</sub> hydrocarbons cuts (see Hollstein, Abstract; column 3, lines 67-68; and column 4, lines 1-7) comprising contacting the feed under isomerization conditions with a catalyst composition comprising mixed aluminum and zirconium oxides modified with tungsten oxyanion and hydrogenation/dehydrogenation component of a Group VIII metal (see Hollstein, Abstract; column 2, lines 50-68; column 3, lines 1-11, 28-31, and 67-68; and column 4, lines 1-29).

14. With respect to claim 2, Hollstein discloses wherein the hydrocarbon feed is heptane (see Hollstein, column 3, lines 67-68; and column 4, lines 1-5).

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15. With respect to claim 3, Hollstein discloses wherein the isomerization conditions comprise presence of hydrogen (see Hollstein, column 4, lines 21-23) with a hydrogen to hydrocarbon ratio between 0.1 to 5 (see Hollstein, column 4, lines 23-25), a temperature range from -15°C to 300°C, a total pressure of between 1 and 40 bar (see Hollstein, column 4, lines 8-12) and a liquid space velocity LHSV of between 0.1 to 30 h<sup>-1</sup> (see Hollstein, Table I).

16. With respect to claim 5, Hollstein discloses wherein the Group VIII metal is platinum and/or palladium in an amount less than 5% (see Hollstein, column 2, lines 58-63; and column 3, lines 8-11).

***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

20. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollstein (US 4956519).

21. With respect to claim 2, Hollstein discloses a process for the production of high-octane gasoline from a hydrocarbon feed stream with C<sub>4+</sub> hydrocarbons cuts (see Hollstein, Abstract; column 3, lines 67-68; and column 4, lines 1-7) comprising contacting the feed under isomerization conditions with a catalyst composition comprising mixed aluminum and zirconium oxides modified with tungsten oxyanion and hydrogenation/dehydrogenation component of a Group VIII metal (see Hollstein, Abstract; column 2, lines 50-68; column 3, lines 1-11, 28-31, and 67-68; and column 4, lines 1-29).

Hollstein does not disclose wherein the hydrocarbon feed contains at least 20 wt% of C<sub>7+</sub> hydrocarbons.

However, Hollstein discloses wherein the hydrocarbon feed is heptane (see Hollstein, column 3, lines 67-68; and column 4, lines 1-2).

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Therefore, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide a feed containing at least 20 wt% of C<sub>7+</sub> hydrocarbons.

22. With respect to claim 4, Hollstein discloses wherein the catalyst comprises a major amount of Group III and Group IV metal oxides (e.g. aluminum oxide and zirconia), with lesser amounts of a Group VI oxide (e.g. tungsten oxide) and Group VIII metal (e.g. platinum and/or palladium) (see Hollstein, column 2, lines 50-68; column 3, lines 1-31; and Tables 1 and 2).

### ***Conclusion***

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randy Boyer whose telephone number is (571) 272-7113. The examiner can normally be reached Monday through Friday from 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola, can be reached at (571) 272-1444. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic



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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RPB



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